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BC8

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/315,713 05/20/99 OHBA

A SCEI-16.084

EXAMINER

WM31/0606

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EMPIRE STATE BUILDING
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NEW YORK CITY NY 10118-0110

PATEL, K	
ART UNIT	PAPER NUMBER

2621

DATE MAILED:

5

06/06/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/315,713

Applicant(s)

AKIO OHBA

Examiner

Kanji Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on May 20, 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2, 4 20) ☐ Other:

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DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page, 2, line 11, change "3 3" to --3x3--.

Appropriate correction is required.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings are objected to because step 7 is not labeled in the figure 2.

Correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art (Figs. 1-5; Pages 1-5 of the specification) admitted by applicant in view of Penna et al. (US 5,838,332).

Regarding claims 1, 8 and 9, the admitted prior art system discloses an image processing device comprising:

a first storage (figure 1, element 11) means for storing source image (figure 3) data in units of pixels;

a second storage (figure 1, element 21) means for storing destination image (figure 5) data in units of pixels;

a rendering means for performing an action of applying a stipulated pixel-unit operation to the source image data stored in said first storage means and rendering the data as destination image data in the second storage means in units repeatedly until a stipulated arithmetic result is obtained (figure 2; page 2 line 3 to page 5 line 20).

Regarding claims 1 and 8-9, the prior art system differs in that the rendering data is not in units of polygons. Penna clearly teaches that it is known for polygon rendering in two dimensional screen space, where the rendering includes mapping of texels from a texture map onto pixels within the polygon. He also teaches that the texture map holds fewer texels than would be required to render a full screen of pixels, or even large polygon, and the rendering process is carried out in a sequence of rendering windows overlaying successive areas of a polygon, with the texture memory being refreshed from mass storage as required between windows (see abstract).

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Therefore, it would have been obvious to one of ordinary skill in the art to use Penna's teaching to modify the prior art system for the purpose of generating video images by the processor and supplied to a video monitor which could be in the form of the conventional television receiver.

Regarding claims 2, 11 and 20, the prior art system shows the source image data stored in said first storage means is image data output from a video camera (figure 1, element 1).

Regarding claims 3, 12 and 21, the prior art further comprising specification means for specifying an operation mode between said source image data and said destination image data (page 2, lines 3-18).

Regarding claims 4, 13 and 22, the prior art system shows the specification means specifies as said operation mode either a first mode wherein said source image data is added to said destination image data (page 3, lines , or a second mode wherein said source image data is subtracted from said destination image data (page 2 line 3 to page 5 line 20).

Regarding claims 5, 14 and 23, the prior art shows the specification means further specifies as said operation mode a third mode wherein said source image data is stored as said destination image data in said second storage means (figure 1, element 21).

Regarding claims 6, 15 and 24, the prior art teaches the stipulated operation is one of convolution filtering, pyramid filtering, interframe differencing, interimage distance computation, Hough transformation, motion blurring or bilinear interpolation (page 2, lines 3-6).

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Regarding claims 7, 16 and 25, Penna discloses the image processing device wherein said image processing device is a computer entertainment device (column 4, lines 11-16; note that a television receiver corresponds to an entertainment device broadly).

Regarding claim 10, the admitted prior art system discloses an image processing device comprising:

storage means comprising a first storage unit (figure 1, element 11) that stores source image (figure 3) data in units of pixels and a second storage unit (figure 1, element 21) that stores destination image (figure 5) data in units of pixels;

a generation means that generates rendering commands (figure 1, element 5; rendering commands are supplied by the CPU 5) that cause the action of applying a stipulated pixel-unit operation to the source image (figure 3) data stored in said first storage means (figure 1, element 11) and rendering the data as destination image (figure 5) data in the second storage means (figure 1, element 21) in units to be performed repeatedly until a stipulated arithmetic result is obtained (figure 2; page 2 line 3 to page 5 line 20); and

an execution means that executes rendering commands generated by said generation means (figure 1, element 5; page 1 line 23 to page 2 line 2).

Regarding claim 10, the prior art system differs in that the rendering data is not in units of polygons. Penna clearly teaches that it is known for polygon rendering in two dimensional screen space, where the rendering includes mapping of texels from a texture map onto pixels within the polygon. He also teaches that the texture map holds fewer texels than would be required to render

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a full screen of pixels, or even large polygon, and the rendering process is carried out in a sequence of rendering windows overlaying successive areas of a polygon, with the texture memory being refreshed from mass storage as required between windows (see abstract).

Therefore, it would have been obvious to one of ordinary skill in the art to use Penna's teaching to modify the prior art system for the purpose of generating video images by the processor and supplied to a video monitor which could be in the form of the conventional television receiver.

For claims, 17-18, see the rejection of at least claims 1 and 8-9, in which rendering commands are generated by CPU 10 in figure 1.

Regarding claims 19 and 26-27, the admitted prior art discloses an image processing method in an image processing device including a first storage means (figure 1, element 11) that stores source image (figure 3) data in units of pixels, and a second storage means (figure 1, element 21) that stores destination image (figure 5) data in units of pixels, the image processing method comprising:

a first rendering step wherein one portion of the operations among some stipulated pixel-unit operations are performed on the source image data stored in said first storage means and the data is rendered as destination image data in the second storage means (page 1 line 12 to page 5 line 16); and

a second rendering step wherein another portion of the operations among some stipulated pixel-unit operations are performed on the source image data stored in said first storage means, this data is added to or subtracted from the image data already rendered in said first rendering

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step and the data is rendered as destination image data in the second storage means (page 1 line 12 to page 5 line 16);

Regarding claims 19 and 26-27, the prior art system differs in that the rendering data is not in units of polygons. Penna clearly teaches that it is known for polygon rendering in two dimensional screen space, where the rendering includes mapping of texels from a texture map onto pixels within the polygon. He also teaches that the texture map holds fewer texels than would be required to render a full screen of pixels, or even large polygon, and the rendering process is carried out in a sequence of rendering windows overlaying successive areas of a polygon, with the texture memory being refreshed from mass storage as required between windows (see abstract). Therefore, it would have been obvious to one of ordinary skill in the art to use Penna's teaching to modify the prior art system for the purpose of generating video images by the processor and supplied to a video monitor which could be in the form of the conventional television receiver.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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Claims 1, 8-10, 17-19, 26-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Okada (US 6,151,035).

Regarding claims, 1 and 8-10, Ohkada discloses an image processing device comprising:

a first storage (column 1, lines 44-47; figure 6, element 58; frame memory has two regions, first memory region and second memory region) means for storing source image (column 6, line 48) data in units of pixels;

a second storage (column 1, lines 47-48; figure 6, element 58) means for storing destination image data in units of pixels (column 6, line 48);

a rendering means (column 1, lines 49-52; graphic data generating circuit reads on rendering means) for performing an action of applying a stipulated pixel-unit operation (column 4, lines 56-65) to the source image data stored in said first storage means in units of polygons (column 1, line 54-61; figure 7) and rendering the data as destination image data in the second storage means in units repeatedly until a stipulated arithmetic (column 4, line 61 to column 5 line 9; stipulated operation is performed by CPU 44) result is obtained.

For rejection of claims 17-18, see the rejection of claim 1, 8-10 in which rendering commands are generated by CPU 44 in figure 6.

For rejection of claims 19 and 26-27, see the rejection of claim 1, 8-10 in which second rendering step is performed by CPU 44 including adding (by adder) and subtraction (by reduction process).

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Other prior art cited

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chao (US 5,864,639) discloses a method and apparatus of rendering a video image.

Larson (US 6,031,550) discloses a pixel data x striping in a graphics processor.

Lapidous (US 6,172,684 B1) discloses a method and apparatus for storing display lists of 3D primitives.

Gallery et al. (US 5,986,659) discloses a burring for computer graphics generated images.

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Contact information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kanji Patel whose telephone number is (703) 305-4011. The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Leo Boudreau, can be reached on (703) 305-4706.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 306-0377.

The fax number for this group is (703) 872-9314.



Kanji Patel
Patent Examiner
Group Art Unit 2621
May 30, 2001



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